Comments of

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In the Matter of

Streamlining Deployment of Small Cell Infrastructure by Improving Wireless Facilities Siting Policies; Mobilitie, LLC, Petition for Declaratory Ruling

WT Docket No. 16-421

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I. Introduction & Summary

Embracing the transition to 5G requires a paradigm shift in the minds of policymakers and regulators. Unlike the evolution from 2G to 3G, or from 3G to 4G, deploying the fifth generation of mobile wireless technology cannot be done merely by rolling out new software upgrades and consumer devices. To deploy 5G, and for Americans to reap the tremendous benefits that it promises to yield, carriers will need to deploy vast amounts of new infrastructure. Only by supplementing their traditional macro cells with orders of magnitude more antennas and creating dense, heterogeneous networks ("HetNets") will carriers be able to meet growing demand for capacity.

If, in deploying small cells and distributed antenna systems ("DAS") — most of which entail collocating an antenna on an existing structure, rather than deploying new towers — carriers must pay through the nose and slough through permitting and approval processes designed for legacy networks, the 5G revolution will be substantially delayed, to the detriment of all Americans. However, the Federal Communications Commission ("FCC" or "Commission") has the power to preempt state and local authorities that present unreasonable barriers to deployment, as Mobilitie, LLC, asked for in its Petition for Declaratory Ruling.[2]

TechFreedom supports the Mobilitie Petition, and urges the Commission to expeditiously issue a declaratory ruling clarifying that the permitting and approval processes for deploying new wireless infrastructure must adapt to 5G and its corollary changes to network architectures. Additionally, the Commission must study the rights-of-way management practices that state and local governments have been adopting, and ensure that they comport with the Commission's goals under the Communications Act.

The following comments explain the reasons for our support, and give additional advice on ways the Commission may act to further the 5G revolution and broadband deployment, more broadly.

II. The 5G Revolution Beckons

5G is not merely the next evolutionary stage in mobile wireless technology. With 5G, carriers will be able to provide vastly superior connectivity to consumers on the go — lower latency, higher throughput, etc. — as well as tap into lucrative new markets. From

[2] Mobilitie, LLC, *Petition for Declaratory Ruling*, Promoting Broadband for All Americans by Prohibiting Excess Charges for Access to Public Rights of Way, WT Docket No. 16-421 (Nov. 15, 2016) ["Mobilitie Petition"], *available at* https://goo.gl/zOGRsV; 47 U.S.C. § 253(c).

enabling vast fleets of autonomous vehicles,[3] to increasing crop yields,[4] to improving the efficiency and accountability of numerous government programs,[5] to competing head-to-head with wireline incumbents for enterprise and residential broadband customers,[6] the 5G revolution could be the most disruptive technological transformation since the development of the cable modem and Data Over Cable Systems Interface Standards ("DOCSIS") standards in the late 1990s.[7]

The impact that DOCSIS had on the market for broadband Internet connectivity is difficult to overstate. Almost overnight, American consumers went from having a single broadband provider (*i.e.*, dial-up Internet service provided via the local telephone company) to having two (*i.e.*, the local telephone company and the local cable company). This facilities-based competition generated nearly a trillion and a half dollars of private investment in American broadband infrastructure over the last two decades,[8] with telephone companies initially holding a dominant position in the market, only to have their dominance usurped by cable companies in the 2000s.[9] Now, telephone companies and new entrants alike are desperately trying to catch-up and chase after the sizeable profit margins currently being

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[3] *See, e.g.*, Qualcomm, *Leading the World to 5G: Cellular Vehicle-to-Everything (C-V2X) Technologies* (June 2016), *available at* https://goo.gl/WO8y7d.

[4] *See, e.g.*, Intel Newsroom, *How Intel Makes Agriculture More Precise* (Feb. 25, 2016), *available at* https://youtu.be/KWaXXIkuU8E.

[5] *See, e.g.*, Testimony of Meredith Atwell Baker, President and CEO, CTIA — The Wireless Association, "*Reauthorization of NTIA" Testimony Before the House Energy & Commerce Committee Subcommittee on Communications and Technology*, at 3 (Feb. 2, 2017), *available at* https://goo.gl/IaKFvO ("In local communities, increased 5G connectivity will mean officials can more effectively spot and respond to crime, emergencies or natural disasters. It will make roads and public transit systems safer. Smarter energy solutions will lower utility costs for businesses and families. Mobile healthcare solutions will instantly connect urgently ill patients with doctors, regardless of where they live.").

[6] *See, e.g.*, Gabriel Brown, *The Return of Fixed Wireless Access*, LIGHT READING (July 18, 2016), *available at* https://goo.gl/1vtEWH; Bill Snyder, *5G Will Give You Blazing Fast Broadband at Home*, CIO (Dec. 9, 2016), *available at* https://goo.gl/xKuPQ0.

[7] *See generally* Rouzbeh Yassini, *Broadband Branches Out: Extending Far Beyond Its Original Capabilities, Broadband is Showering the World with Gifts that Will Last a Lifetime. And Beyond.*, BROADBAND LIBRARY (Jan. 29, 2017), *available at* https://goo.gl/lk8bwr (Dr. Yassini, Ph.D., pioneering inventor of DOCSIS, describing the transformative impact of broadband on the telecom industry and society, writ large).

[8] *See, e.g.*, US Telecom, *Broadband Investment Remains Large, but Ticked Down in 2015* (Dec. 14, 2016), *available at* https://goo.gl/OKaMQE (reporting broadband infrastructure investment of nearly $1.5 trillion over the last 20 years).

[9] *See, e.g.*, Andrew Burger, *Report: Cable Broadband Market Share Surging, Now at 62% of Total Fixed Broadband Market*, TELECOMPETITOR (Mar. 6, 2016), *available at* https://goo.gl/JQmnWy.

earned by many ISPs,[10] both by supplementing legacy copper networks with increasing amounts of optical fiber and by exploring new ways to deliver broadband to the home.[11]

However, deploying new broadband infrastructure and making upgrades to existing infrastructure are both extremely capital-intensive. The American broadband market is still attractive to investors,[12] but not uniquely so. Recent upticks in nationalist protectionism aside,[13] capital markets remain overwhelmingly global in nature, so if outdated regulations and burdensome compliance costs make American investments less attractive, those investments will likely be made elsewhere.[14] Indeed, despite leading the world in implementing all previous generations of mobile wireless technology, America is arguably falling behind in 5G, with South Korea currently setting the pace.[15]

To be sure, some good progress has been made,[16] and carriers are set to begin 5G field trials in select American cities later this year.[17] There is still much more than can be done, though, to keep making progress here. Some progress will have to come, if at all, from

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[10] Yassini, *supra* note 7 ("This economic transformation [towards broadband] reflects two powerful forces. The first is that broadband subscribers and revenue continue to rise, while the video category enters a period of stasis, if not outright decline. … The second big force is the superior profit margin delivered by broadband, where the absence of underlying programming/content costs produces tremendous advantage.").

[11] *See, e.g.*, Jon Brodkin, *Google Fiber's Wireless Plans Take Shape with Purchase of a Gigabit ISP*, ARS TECHNICA (June 23, 2016), *available at* https://goo.gl/GdN013.

[12] *See, e.g.*, Cynthia Littleton, *Altice Completes Cablevision Acquisition, Creating No. 4 U.S. Cable Operator*, VARIETY (June 21, 2016), *available at* https://goo.gl/Wmoykm; Steve Holland et al., *Softbank's Son Pledges $50 Billion, Foxconn Eyes U.S. Expansion as Trump Woos Asian Firms*, REUTERS (Dec. 7, 2016), *available at* https://goo.gl/ImwUrJ.

[13] *See, e.g.*, Susan A. Aaronson, *Redefining Protectionism: The New Challenge in the Digital Age*, THE INT'L ECON. at 58 (Fall 2016), *available at* https://goo.gl/UJ1urE ("Scholars and policymakers alike need to rethink how we define and measure [protectionism] as well as reconsider the appropriate strategies to address it. Nowhere is this more evident than U.S. policies towards digital trade (goods and services delivered via information flows on the internet) and digital protectionism (barriers or impediments to digital trade, including censorship, filtering, localization) measures, and regulations to protect privacy.").

[14] *See, e.g.*, Ajit Pai, *Remarks at the American Enterprise Institute's Roundtable Discussion on Decline in Investment Following the FCC's Title II Order* (Sept. 9, 2015), *available at* https://goo.gl/2jORxQ ("When the FCC makes it less attractive for broadband providers to invest in networks serving the American people, they will find other places to put their money. For example, one major broadband provider that cut back on capital investments by 29 percent in the first half of 2015 announced this summer that it would be spending an additional $3 billion to build out its network in Mexico.").

[15] *See, e.g.*, Erwan Lucas, *In South Korea, the Race is on for Olympics 5G Next Year*, PHYS.ORG (Feb. 28, 2017), *available at* https://goo.gl/8ofmsq.

[16] *See, e.g.*, *Report and Order and Further Notice of Proposed Rulemaking*, Use of Spectrum Bands Above 24 GHz for Mobile Radio Services, GN Docket No. 14-177 (July 14, 2016), *available at* https://goo.gl/uqaOCO.

[17] *See, e.g.*, Kyle Wiggers, *AT&T Will Begin Testing 5G Network Technologies in Texas Later This Year*, DIGITAL TRENDS (Jan. 4, 2017), *available at* https://goo.gl/kc5j5o.

Congress,[18] but the FCC can also make good headway on its own, including by issuing a declaratory ruling to address the serious concerns raised in the Mobilitie Petition.[19] The 5G revolution beckons. It's high time to answer the call.

III. Clearing Unreasonable Deployment Barriers

As detailed at great length in the Mobilitie Petition, there are numerous barriers to deploying new 5G infrastructure at the state and local level.[20] For carriers to densify their networks and keep up with skyrocketing demand for mobile broadband, or for new entrants to overbuild and compete with broadband incumbents, they must first navigate local permitting and approval processes, most of which were designed in the analog era of the 20th Century. Some localities, recognizing the tremendous economic and societal benefits that come with broadband deployment, have streamlined their processes and made them as efficient as possible,[21] but others have not.

Of these localities, some may have simply failed to update their permitting and approval processes to account for changes in broadband technology, such as by using fee schedules that charge the same amount to deploy a new macro cell tower as to collocate a small cell on an existing structure. More nefariously, some localities may be leveraging their monopoly control over access to public rights of way (the true natural monopoly in the broadband market) to extort payments from ISPs as a way of raising revenue or making up for budgetary shortfalls.[22] In both cases, there is much the FCC can do to help improve local permitting and approval processes, and thereby fulfill its statutory duties to promote broadband deployment and the public interest.[23]

The Mobilitie Petition identified several unreasonable local practices, including discriminatory application fees,[24] per-pole fees,[25] fiber fees,[26] revenue-based fees,[27] and third-party manager fees.[28] These practices will be considered in turn:

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[18] *See generally* Linda K. Moore, *Framing Spectrum Policy: Legislative Initiatives*, CONG. RES. SERV. (May 18, 2016), *available at* https://goo.gl/keRY8h (describing recent spectrum initiatives passed by Congress, and other initiatives currently under consideration).

[19] *See* Mobilitie Petition, at 12–19.

[20] *Id.*

[21] *Id.* at 4, 13–14.

[22] *See, e.g.*, TCG New York, Inc. v. City of White Plains, 305 F.3d 67, 79 (2d Cir. 2002) ("Section 253(c) requires compensation to be reasonable essentially to prevent monopolistic pricing by towns. Without access to local government rights-of-way, provision of telecommunications service using land lines is generally infeasible, creating the danger that local governments will extract artificially high rates.").

[23] *See, e.g.*, 47 U.S.C. §§ 151, 253, 1302.

[24] Mobilitie Petition, at 16.

[25] *Id.*

A. Application Fees

Section 253(c) of the Communications Act clarifies that state and local governments are permitted to collect "fair and reasonable compensation" from ISPs in exchange for access to public rights of way if that is provided "on a competitively neutral and nondiscriminatory basis" and the government publicly discloses the charged fees.[29] Thus application fees are not inherently unreasonable. However, if the application fees are too high, or if applicants must separately apply for each small cell or antenna in a DAS, the fees may present an unreasonable barrier to deployment and competition, which the FCC would be empowered to preempt and declare unlawful.

Mobilitie's experience suggests that at least some states and localities are charging unreasonably high or discriminatory fees.[30] Application fees will never be uniform across the country, but the degree of variability between the fees charged in different cities ($1,000–$10,000, in Mobilitie's experience)[31] certainly raises suspicion. The FCC should investigate the variance in these fees and scrutinize those outliers charging the highest fees. To an extent, under principles of federalism,[32] states and localities should be able to decide for themselves how to go about processing permit applications, so implementing a uniform fee schedule or application process across the country may be inadvisable.

However, the FCC should take three steps:

1. Declare that Section 253's "fair and reasonable compensation" language covers only the costs reasonably associated with processing permit applications, and that any fees charged going above and beyond that (*e.g.*, to fund other government programs or make up for budgetary shortfalls) are unreasonable and unlawful.
2. On a case-by-case basis, investigate the outliers that charge the highest fees to process permit applications and, where fees are determined to be unreasonably high, declare them unlawful.

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[26] *Id.* at 18.
[27] *Id.*
[28] *Id.* at 19.
[29] 47 U.S.C. § 253(c).
[30] Mobilitie Petition, at 16 (describing up-front fees of $10,000 and $8,000 charged by localities in Minnesota and California without any explanation of how those fees were related to application processing).
[31] *Id.*
[32] *See, e.g.*, United States v. Lopez, 514 U.S. 549, 581 (1995) ("In this circumstance, the theory and utility of our federalism are revealed, for the States may perform their role as laboratories for experimentation to devise various solutions where the best solution is far from clear.") (citation omitted).

3. Task the new Broadband Deployment Advisory Committee ("BDAC")[33] with developing standard permit forms, application processes, and fee schedules to expedite broadband infrastructure deployment, which may be adopted by states and localities on a voluntary basis.

B. Per-Pole Fees

In addition to up-front application fees, broadband providers often must also pay per-pole fees — both up-front and annual — to deploy infrastructure in public rights of way.[34] Unlike the general application fees discussed above, per-pole fees must be reconsidered during the paradigm shift to 5G. Even once reasonable per-pole fees may become patently unreasonable when applied in the 5G era. As Mobilitie illustrated, "A $5,000 per-site fee for a 100-site deployment translates into $500,000 in fees per year."[35]

Like general application fees, per-pole fees are not inherently unreasonable. The costs of processing a permit application may well increase with the number of individual poles, cells, or antennas covered in the application, so a fee schedule that incorporates this into its calculations may be advisable. However, this basic logic doesn't necessarily follow in the 5G era, because most new 5G installations will be collocations upon existing structures — utility poles, street lamps, buildings, etc. — and those installations are (as of recently) exempt from the environmental and historical review processes otherwise required prior to construction of new broadband infrastructure in public rights of way.[36]

After considering the issue, the FCC should provide guidance to states and localities on how the paradigm shift to 5G affects the reasonableness of per-pole fees. The FCC may even find that per-pole fees are *per se* unreasonable, in the 5G era, because they arguably discriminate against wireless broadband providers and give wireline broadband providers an unfair competitive advantage, in violation of Section 253(c).[37] Of course, to the extent that per-pole fees discriminate unfairly against wireless broadband providers, states and localities could theoretically correct that competitive imbalance by also charging fiber fees — which would likely have a disproportionate impact on wireline broadband providers,

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[33] *See Public Notice*, FCC Announces the Establishment of the Broadband Deployment Advisory Committee and Solicits Nominations for Membership (Jan. 31, 2017), *available at* https://goo.gl/mlVV6R.
[34] Mobilitie Petition, at 16–18.
[35] *Id.* at 17.
[36] *See Report and Order*, Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies, WT Docket No. 13-238 (Oct. 21, 2014), *available at* https://goo.gl/a1bHJW (excluding categorically small cells, DAS, and other wireless technologies from mandatory review under the National Environmental Protection Act of 1969 and the National Historic Preservation Act of 1966).
[37] 47 U.S.C. § 253(c).

relative to their wireless competitors — but two wrongs don't make a right, and it would arguably be better to simply fold per-pole and fiber fees into general application fees.

C. Fiber Fees

Fiber fees also present a potentially unreasonable roadblock to broadband infrastructure deployment. As discussed above, and like per-pole fees, fiber fees could be applied in a reasonable and nondiscriminatory way.[38] However, such fees could also be used to unfairly discriminate between different types of broadband providers, and/or to raise revenue that is entirely unrelated to the government's costs in processing permit applications and managing the optical fiber running through public rights of way. In either case, Commission intervention would be justified.

If the FCC finds that localities, like the Texas cities mentioned in the Mobilitie Petition,[39] are incorporating into fiber fees the fair market value of adjacent private property, the Commission should deem those fees to be unreasonable and unlawful. Such adjacent private property is neither owned by broadband providers nor the responsibility of government to maintain, so it cannot properly figure into a fee schedule that comports with Section 253(c).

D. Revenue-Based Fees

Reportedly, certain localities have also begun charging fees to broadband providers based on a percentage of their annual gross revenues.[40] These fees are clearly an attempt by state and local governments to extort money from broadband providers, as they are entirely unrelated to the costs associated with processing permit applications and managing public rights of way. While the state and local governments in question may have the best intentions in mind, and may be using the funds generated from revenue-based fees to fund any number of valuable social programs, the FCC's direction from Congress is clear: all Americans citizens deserve access to fast and affordable communications services,[41] and any barrier unreasonably preventing the deployment of such services should be cleared away.[42]

Of course, it's understandable that state and local governments, some of which are facing major budgetary shortfalls, would look enviously at the annual gross revenues of many broadband providers and consider taxing them to fund other government programs, but

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[38] *See, e.g.*, Mobilitie Petition, at 18 (describing per-foot fiber fees in various states ranging from $0.19–$1.08).
[39] *Id.*
[40] *Id.*
[41] *See* 47 U.S.C. §§ 151, 254, 1302.
[42] 47 U.S.C. §§ 253, 1302.

the annual gross revenues of broadband providers can be very misleading, and looking only at them would give one a very incomplete understanding of how the market operates. As the Commission well knows, broadband providers must gather tremendous amounts of capital and spend millions of dollars before they can operate a network and begin earning revenue from subscribers. After a network is built and in operation, broadband providers may generate tremendous revenues from service subscriptions, which easily cover their annual operating expenditures, but the only profit made is what's left after all payments are made on the sizeable amount of debt typically taken out to finance the up-front capital expenditures.

Without an adequate understanding of the broadband market, a state or locality may unwittingly tax an ISP out of existence, or discourage new entry and competition for years, simply because they see the prospect of taxing annual gross broadband revenues as too good to resist. The FCC should use its authority under Section 253 to declare that such revenue-based fees are unreasonable and unlawful.

E. Third-Party Manager Fees

Mobilitie's Petition also reports that some localities have begun utilizing third parties to manage their rights of way.[43] Like general application fees and, to a lesser extent, per-pole and fiber fees, third-party manager fees are somewhat ambiguous. In practice, they may restrict deployment and reduce competition by subjecting broadband providers to unreasonably high fees. However, at least in theory, having private parties specialized in managing public rights of way and interfacing between broadband providers and government could be a good thing, if the additional costs associated with employing a third party (rather than having the work done by public servants) yield efficiency benefits that more than offset those costs.

The Commission should scrutinize the use by states and localities of third-party managers of public rights of way, but not ban the practice outright. Where racketeers have colluded with government to extort payments from broadband providers, the Commission should take swift action to declare their practices unlawful and seize their ill-gotten gains. However, where state or local governments have contracted rights-of-way management out to third parties, the Commission should keep an open mind, so long as the contracts

[43] Mobilitie Petition, at 19.

are awarded on a competitively neutral basis, and so long as the fees charged to providers remain transparent.[44]

IV. Conclusion

We thank the Commission for taking up this important and timely issue. We urge it to issue posthaste a declaratory ruling that responds to Mobilitie's concerns, clarifies the scope of the Commission's authority, declares certain practices to be unreasonable and unlawful, and provides guidance to states and localities both on how to comport with Section 253(c) and how the FCC will assess compliance going forward.

[44] Of course, a state or local government could not escape its duty to "publicly disclose" the fees charged for access to rights of way by contracting right-of-way management to third parties, as that would vitiate the purpose of the statute and violate the Supremacy Clause.